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PATENT, TRADEMARK, COPYRIGHT
AND UNFAIR COMPETITION LAW
AND RELATED LITIGATION

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To: Examiner: Sharidan Carrillo

From: Gregory J. Lunn

Group Unit No. 1746
Commissioner for Patents
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Re: Our File: JDI/291
USSN: 10/803,859
Filed: March 18, 2004
Title: NO VOC SOLVENT BLEND
Applicant: Benjamin Laux

Fax: 571-273-8300

Pages: 20 (including cover sheet)

MESSAGE/COMMENTS

Attached is a Transmittal of Appeal Brief, with authorization to charge deposit account for filing; and an Appeal Brief.

Confirmation copy will not follow.

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Atty. Docket No. JDI-291

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August 5, 2005

August 5, 2005

Cynthia P. Scanio

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Benjamin Laux
Serial No.: 10/803,859
Filed: March 18, 2004
For: NO VOC SOLVENT BLEND

Art Unit: 1746
Examiner: Sharidan Carrillo
Confirmation No.: 6538

VIA FACSIMILE

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL OF APPEAL BRIEF

1. Transmitted herewith is the APPEAL BRIEF in this application, with respect to the Notice of Appeal filed on June 6, 2005.

2. STATUS OF APPLICANT

This application is on behalf of:

- ☒ Other than a Small Entity
☐ Small Entity status of this application under 37 CFR 1.9 and 1.27 has been established by a verified statement previously submitted.
☐ Enclosed is a verified statement to establish Small Entity status

3. FEE FOR FILING APPEAL BRIEF

Pursuant to 37 CFR 1.17(f), the fee for filing the Appeal Brief is:

- ☐ Small Entity (\$250.00)
☒ Large Entity (\$500.00)

Appeal Brief Fee Due \$ 500.00.

4. EXTENSION OF TERM

The proceedings herein are for a patent application and the provisions of 37 CFR 1.136 apply. Complete (a) or (b) as applicable.

- (a)___ Applicant petitions for an extension of time under 37 CFR 1.136 for the total number of months checked below:

Extension (months)		Fee for other than small entity	Fee for small entity
___	one month	\$ 120.00	\$ 60.00
___	two months	\$ 450.00	\$ 225.00
___	three months	\$1,020.00	\$ 510.00
___	four months	\$1,590.00	\$ 795.00
___	five months	\$2,160.00	\$1,080.00

Extension fee due with this request \$ 120.00.

If an additional extension of time is required, please consider this a petition therefor. (Check and complete the next item, if applicable)

- ___ An extension for ___ months has already been secured and the fee paid thereof of \$___ is deducted from the total fee due for the total months of extension now requested. Extension fee due with this request \$___.

OR

- (b)___ Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition for extension of time.

5. TOTAL FEE DUE

The total fee due is:

Appeal Brief Fee of \$ 500.00.

Extension Fee (if any) \$ ____.

TOTAL FEE DUE \$ 500.00

6. FEE PAYMENT AND FEE DEFICIENCY

X Please charge deposit account no. 23-3000 the amount of \$ 500.00 for the Appeal Brief Fee.

X The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. 23-3000.

Respectfully submitted,



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August 5, 2005

August 5, 2005

Cynthia P. Scanio

Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte Benjamin Laux

Appeal No. _____

Serial No.: 10/803,85910/273,983
Filed: March 18, 2004
Group Art Unit: 1746
Examiner: Sharidan Carrillo
Applicant: Benjamin Laux
Title: NO VOC SOLVENT BLEND

Cincinnati, Ohio 45202

August 5, 2005

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P. O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

This brief is in furtherance of Applicant's Notice of Appeal filed June 6, 2005, appealing the decision of the Examiner dated May 26, 2005, finally rejecting claims 1-6 (all pending claims). A copy of the claims appears in the Appendix to this Brief.

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I. Real Party in Interest

The real party in interest is JohnsonDiversey, Inc.

II. Related Appeals and Interferences

There are no other prior or pending appeals, interferences or judicial proceeding related to the subject case.

III. Status of Claims

Claims 1-6 are pending in the above case and stand rejected under 35 U.S.C. § 103(a). These are all being appealed.

Claims 7 and 8 have been canceled and are not being appealed.

IV. Status of Amendments

The Amendment dated May 17, 2005, was entered pursuant to the Advisory Action mailed May 26, 2005.

V. Summary of Claimed Subject Matter

There is one independent claim pending in the above application. This claim is directed at a solvent blend which is not a volatile organic compound. In other words, the solvent blend has a vapor pressure less than 0.1 mmHg at 20° C. The claimed blend effectively dissolves grease and oil.

The claimed composition includes three components a) a petroleum distillate, b) a glycol ether, c) a C₁-C₄ alkyl ester or di-ester having a carbon chain length of less than 18. Each of these components, a, b, and c, has a vapor pressure less than 0.1 mmHg at 20° C.

The composition must have 30 to 60% by weight of the petroleum distillate, 20 to 50% by weight of the glycol ether which is soluble in the petroleum distillate, and at least 10% by weight of the C₁-C₄ ester. (See page 2, line 18, to page 4, line 15.) As proven in the examples (pages 5-7), the blend of solvents out performs the individual components as well as any combination of two of the three components, and is generally better than d-limonene which is a volatile organic compound because of its higher vapor pressure.

VI. Grounds of Rejection to be Reviewed on Appeal

Claims 1-6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Klier et al U.S. Patent 5,811,383.

VII. Argument

The present invention is a non-VOC solvent blend. Claim 1 reads as follows:

1. A solvent blend having a vapor pressure less than 0.1 mm Hg at 20° C comprising
 - 30% to 60% by weight of a petroleum distillate having a vapor pressure of less than 0.1 mm Hg at 20° C;
 - 20% to 50% by weight of a glycol ether soluble in said petroleum distillate and having a vapor pressure of less than 0.1 mm Hg at 20° C;
 - at least 10% by weight of a C₁-C₄ ester having a carbon chain length less than 18 and having a vapor pressure of less than 0.1 mm Hg at 20° C.

A solvent having a vapor pressure less than 0.1 mmHg at 20° C is not a volatile organic compound. VOCs are undesirable because of their adverse environmental impact. But, VOCs are generally good at dissolving grease and oil. As indicated, none of the three recited components of the present invention are VOC solvents. The claim can be broken down into five elements:

- Element 1: The total blend is not a volatile organic compound.
- Element 2: The blend includes component A which is 30-60% by weight of a petroleum that is not a volatile organic compound.
- Element 3: The blend includes component B which is 20-50% by weight of a glycol ether, which is not a volatile organic compound.
- Element 4: The composition includes component C which is 10% or more by weight of a C₁-C₄ ester having a maximum carbon chain length of 18 and is also not a volatile organic compound.

- Element 5: At least 60% of the composition must be formed from the combined A, B, and C. (This is the total of the minimum percentages of each of the above three components, A, B, and C.)

This composition is intended to dissolve grease. The composition was tested. These test results are shown in EXAMPLES 1, 2, and 3 of the specification. As shown in TABLE 1 of EXAMPLE 1, the no VOC solvent blend of the present invention removed 94.39% of the grease in the test sample. The individual components of the blend removed anywhere from 48-69%. As a comparison, applicant tested d-limonene, which is a volatile organic compound. Therefore, it would be expected to remove more grease. The no VOC solvent blend out-performed d-limonene.

This was repeated with EXAMPLE 2. This used three different no VOC solvent blends, labeled blend a, b and c, based on the ester utilized. All of these out performed the individual components, and two of the three out performed the d-limonene. The no-VOC solvent blend, B, removed 89.55% of the grease, whereas the d-limonene removed 90.25. Again, these are very good results comparable to or superior to d-limonene and, again, without any volatile organic compounds.

Finally, EXAMPLE 3 was submitted to establish the relative efficacy of the present invention compared to combinations of two out of the three components. This example showed that the 3-component blend out performed the 2-component blend, combining two of any of the three components.

The Klier reference discloses a high water content, oil continuous micro-emulsion, or emulsion. The Klier reference does not, in any way, lead one of ordinary skill in the art to applicant's invention. The reference discloses a combination of solvents. The

disclosure is somewhat confusing in respect to concentrations, but it does indicate, at column 3, lines 41-47, that the micro-emulsion contains water in an amount greater than 40% and less than 75%, preferably greater than 45%. At column 3, line 62, to column 4, line 3, it indicates the organic solvent or combination of solvents should be present in an amount greater than 10% and less than 60%, preferably greater than 25% and preferably less than 50%.

The organic solvent can be one or more of eight potential general classes of solvents. These classes include aliphatic alcohols, aliphatic esters, aliphatic hydrocarbons, chlorinated aliphatic hydrocarbons, aromatic hydrocarbons, aliphatic di-esters, aliphatic ketones, and aliphatic ethers. The preferred solvent is the glycol monoethers in a mixture with one or more other organic solvents. (See column 5, lines 31-33.) The reference does not specifically mention petroleum distillates, but does mention a variety of aliphatic hydrocarbons, which certainly could be petroleum distillates. These are set forth in column 4, lines 33-44. Many, if not most of these aliphatic hydrocarbons would be categorized as volatile organic compounds. It specifically indicates that the preferred hydrocarbons contain 3-24 carbon atoms, preferably 6-24 carbon atoms. These include propane, butane, hexane, octane, and decane, all of which should be considered volatile organic compounds. The total number of possible combinations that could be formulated based on the description of organic solvents contained at column 4, line 4, through column 5, line 30, is extremely high. The overwhelming majority of these potential combinations would not fall within the scope of claim 1 (even assuming they met the other limitation of claim 1). Arriving at applicant's invention utilizing this disclosure would be a

totally random act, and certainly is not suggested by this reference, the nature of the problem being solve, or knowledge of persons of ordinary skill in the art.

Referring back to the five separate elements of the pending claim 1, it is clear that the Klier reference does not disclose or suggest each of these five elements.

Element 1 is that the composition not be a volatile organic compound. Klier does not mention or disclose whether any of the particular components are VOCs. It is clear from the disclosure that some are, and some are not, VOCs. But, there is no suggestion to pick or choose a particular non-VOC solvent, and, in particular, the examples, as discussed below, clearly teach one away from selecting non-VOC solvents.

Element 2 is that the composition include 30-60% of a non-VOC petroleum distillate.

The Klier reference fails to disclose many features of this element. Klier does not disclose the use of 30-60% by weight of the petroleum distillate. Certainly, it does not teach the 30% minimum. Further, it does not suggest a non-VOC petroleum distillate. The examples in Klier include compositions such as heptane, d-limonene, perchloroethylene, and propane. These are all volatile organic compounds. Again, although one can perhaps pick and choose a non-VOC petroleum distillate from the large number of aliphatic hydrocarbons listed, it is certainly not suggested. One is not directed to this.

Element 3 is 20-50% of a glycol ether, which is also not a volatile organic compound.

It is assumed that the glycol ethers disclosed in the Klier reference are not volatile organic compounds. But, the amount of glycol ether is very difficult to ascertain from Klier. This is discussed at column 5, lines 31-46 of Klier. At first, it indicates that the glycol ether should be present at 5 weight percent, and less than 50%, preferably less than 25%. The

last sentence, however, states that the glycol monoether is present in the emulsions containing 70-80% water in an amount greater than 5 weight percent based on the total weight of the emulsion, and less than 15%.

Element 4 is at least 10% of a C₁-C₄ ester having a carbon chain length of 18 or less, which is also not a volatile organic compound.

Aliphatic esters is one of the eight classes of potential solvents that can be combined to arrive at the micro emulsion disclosed in the Klier reference. However, none are used in any of the examples, nor is there any discussion of the vapor pressure of the selected ester. Further, there is no suggestion to use at least 10% of the ester.

Furthermore, although there is a suggestion in the Klier reference to use the glycol ether in combination with one or more organic solvents, there is certainly no suggestion to use the ester in combination with a glycol ether and the petroleum distillate, all being non VOCs.

Element 5 is that the composition contains at least 60% of the petroleum distillate in combination with a glycol ether in combination with a C₁-C₄ ester. This 60% is arrived at by simply combining the minimum amounts of each of the three components a, b, and c.

As previously indicated, the Klier reference indicates at column 3, lines 41ff, that, in the single phase, oil continuous micro emulsion, the water is in an amount greater than 40% by weight. Further, in column 3, lines 62-65, it indicates that the organic solvent mixture should be greater than 10% and less than 60%. The composition disclosed in Klier also includes various surfactants. (Greater than 0.5% and less than 5%, column 6, lines 40-44.) Thus, with 40% water, at least some surfactant, and less than 60% solvent,

the Klier composition cannot have 60% solvent. Applicant's invention requires at least 60% solvent.

It is clear that the Klier reference leads one away from the high (60%) solvent concentration claimed by applicant. Klier, at column 9, lines 44-47, suggests that the solvent content should be 4% to less than 40% in the emulsion.

The examples in Klier lead one away from applicant's invention. EXAMPLE 1 discloses blends having 10% docecane, 40% Norpar (a hydrocarbon mixture), or about 40% Norpar plus Dowanal DpnB (a glycol ether). TABLE 2 shows the maximum concentration solvent to be 43%. TABLE 3 shows heptane, a volatile organic compound, as part of the solvent, as does TABLE 4. TABLES 5, 6, 10, 11, and 12, all disclose d-limonene as a solvent. Again, this is a volatile organic compound. Likewise, TABLES 7, 8, 9, 14, 16, 18 and 20 disclose low molecular weight alkanes, such as heptane and propane, as solvents. Again, these are volatile organic solvents. Other examples disclose perchloroethylene, which is a volatile organic compound, as well as tolulene, which is also a volatile organic compound (TABLE 19). Other compounds could be volatile organic compounds, but their vapor pressure is not provided. Therefore, it is very difficult to determine whether some of the Norpar and Isopar compounds, as well as some of the other commercially described solvents disclosed in the Klier patent, are volatile organic compounds. But, the bottom line is, the majority of the systems use a large percentage of volatile organic compounds. None of the examples use the esters, as claimed by applicant. None of the examples use 60% of a solvent blend wherein each of the solvents forming the 60% are not volatile organic compounds.

It is clear that the rejection of the claims based on the Klier reference is hindsight reconstruction. There can be no motivation to modify the disclosure in the Klier reference to arrive at applicant's invention when Klier fails to mention volatile organic compounds. How can there be any suggestion to arrive at the combination of the three specific components claimed in applicant's invention when there are no examples that disclose even the use of the ester claimed in applicant's composition? How can there be any suggestion to arrive at a composition that includes 60% solvent, when this is greater than the maximum disclosed in the Klier reference?

There are three possible sources for a motivation to modify a reference. The nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. The Court forbids the use of hindsight in the selection and modification of references. See *In re Gorman* 933 Fed 2nd 982, 986, 18 USPQ 2nd 1885, 1888 (Fed Cir 1991), and *In re Rouffet* 47 USPQ 2nd 1453, 1457 (Fed Cir 1998). "The range of sources available, however, does not diminish the requirement for actual evidence. That is, the showing must be clear and particular." *In re Dembiczak* 50 USPQ 2nd 1614, 1617 (Fed Cir 1999).

The Advisory Action mailed May 26, 2005, set forth the Patent Office's position on the issue. The Examiner's statement acknowledged that the rejection was, "in a sense necessarily a reconstruction based upon hindsight reasoning", but maintained that it was based only on knowledge within the level of ordinary skill at the time of the claimed invention. But, again, there is no evidence cited. This is not evidence. It is an unsupported conclusory statement. There is no evidence in the record that shows any

suggestion to modify the disclosure in Klier to arrive at applicant's claimed invention. The reference itself teaches away from applicant's claimed invention.

Further, applicant has demonstrated criticality in the combination of the three components. As shown by the examples in applicant's specification, these three components out perform the combination of any two components, or any one component by itself. The results are comparable to or better than a volatile organic solvent, d-limonene. The fact that they are not vastly superior to d-limonene, as mentioned by the Examiner, is not critical. Applicant's invention is intended to perform as well as a volatile organic compound without being a volatile organic compound. That is an unexpected advantage.

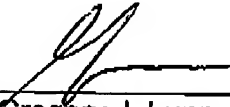
Further, the Examiner has suggested that we insert the limitation to the claim that none of the solvents are volatile inorganic compounds. This would emaciate the claim, and make any patent worthless. That would allow an individual to add a minor, insignificant amount of a volatile inorganic compound in order to avoid infringement. Yet, the composition itself would not be a volatile organic compound. The addition of an insignificant amount of a volatile organic compound is not going to affect the overall activity of the composition, it is the solvent blend itself.

Applicant has claimed a solvent mixture in which at least 60% of the solvent mixture is formed from non-volatile organic compounds. The Klier reference simply does not suggest this. There is nothing in the record that would lead one to modify the disclosure in Klier to arrive at the claimed invention. Therefore, the rejection of claims 1-6 is improper.

In light of the above, applicant would request that the rejection of the pending claims be reversed.

Respectfully submitted,

WOOD, HERRON & EVANS, L.L.P.

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VIII. CLAIMS APPENDIX

1. A solvent blend having a vapor pressure less than 0.1 mm Hg at 20° C comprising
 - 30% to 60% by weight of a petroleum distillate having a vapor pressure of less than 0.1 mm Hg at 20° C;
 - 20% to 50% by weight of a glycol ether soluble in said petroleum distillate and having a vapor pressure of less than 0.1 mm Hg at 20° C;
 - at least 10% by weight of a C₁-C₄ ester having a carbon chain length less than 18 and having a vapor pressure of less than 0.1 mm Hg at 20° C.
2. The solvent blend claimed in claim 1 wherein said petroleum distillate is a hydro treated light petroleum distillate.
3. The solvent blend claimed in claim 1 wherein glycol ether is selected from the group consisting of propylene glycol n-butyl ether, propylene glycol n-propyl ether, diethylene glycol monobutyl ether, ethylene glycol monobutyl ether, dipropylene glycol methyl ether, tripropylene glycol methyl ether, dipropylene glycol n-propyl ether, dipropylene glycol mono n-butyl ether, tripropylene glycol mono n-butyl ether, propylene glycolphenyl ether and propylene glycol n-butyl ether, and blends thereof.
4. The solvent blend claimed in claim 1 wherein said ester is a methyl ester.

5. The solvent blend claimed in claim 1 wherein said ester is a monobasic ester.
6. The solvent blend claimed in claim 1 wherein said ester has a carbon length of 12 or less.

IX. EVIDENCE APPENDIX

No affidavits or evidence under Sections 1.130, 1.131, or 1.132 have been submitted.

X. RELATED PROCEEDINGS APPENDIX

There are no related proceedings.